

Project Learning Tree's "Field Forest Stream" Activity

Instructions:

Find and mark 3 sites outdoors

1. Before doing the lesson, find 3 outdoor sites for your students to study. Try to locate sites as close together as possible. Your "field" site should have few or no trees. Your "forest" site should have one or more trees. Your "stream" site should be the shoreline along a stream, ditch, pond, or other place where water collects, such as a raingarden.

Assemble field study bags

2. Print and cut out cards on the next two pages. Put each card in a bag to be taken outdoors. Each bag should also contain the tools students will need to do the instructions listed on the card.

Show students how to make and record observations

3. Divide students into teams of 3-5 people. Give each team a field bag. Show students how to use the tools.

Visit three sites outdoors

4. Take students outside and show them the 3 marked sites. Tell students to visit each site, follow the instructions on the card, and record observations on their student sheet. When done, each team should return their field bag to you and wait for another field bag to use. The goal is to have all students use all the field bags at each site.

Team 1 – Soil

Determine the soil moisture. Use a trowel or stick to scrape the surface of the ground. Then take a small sample of soil from underneath the surface. Feel the soil, determine if it is wet, moist, or dry. (Moist soil will stick together.) Examine the soil for other characteristics such as texture, color, and smell. Record plant materials and organisms you observe in the soil.

Team 2 – Sunlight and Wind

Determine wind movement and how much sunlight reaches the ground.

To observe the effects of wind, one student should hold a small strip of paper away from their body, while other students observe whether it hangs straight down or blows at an angle (estimate an angle between 1 and 90 degrees). Use the compass to determine the direction from which the wind seems to be blowing.

To determine light intensity, use a photographic light meter or photosensitive paper. If these items are not available, record relative terms such as shady, dark, medium light, or bright; or “Site 1 is brighter than site 2 and site 2 is brighter than site 3.”

Team 3 – Temperature

Measure the temperature at ground level, 1” (2.5 cm) deep in the soil, and at 1 yard (.9 m) above ground. If one site is a pond, stream, or lake, have the team measure the temperature at just above the water at 1” (2.5 cm) deep, and at 1 yard (.9 m) above the water.

Team 4 – Lay of the Land

Determine the slope of the land.

Record any other land features that affect the study site (such as presence of nearby buildings, position at top or bottom of a hill, etc.).

Determine which direction water flows from the site. Do this by slowly pouring water onto the ground and observing where it goes.

Use the compass to determine the direction of water flow.

If possible, study a topographic map to locate the site and to determine the body of water into which the site drains.

Team 5 – Plant Life

Observe the various kinds of plants (large trees, small trees, shrubs, small plants, grasses, mosses, – identify species if you know them).

Record the most common kinds of plants you find and note especially where each grows relative to the others.

Team 6 – Animal Life

Look for animals (insects, worms, birds, reptiles, amphibians, fish, mammals). Record evidence of animals such as scat, tracks, burrows, nests, casings, leaves or cones that have been chewed, etc.